

### **REMARKS**

This Amendment is responsive to an Official Action that issued in this case on 28 December 2005. In that Action, the Office rejected originally-filed claims 1-26 as follows:

- Claims 1, 4, 6-7, 9-10, 20-21, and 23-26 were rejected under 35 USC §102 as being anticipated by U.S. Published Patent Application No. 2004/0065247 to Horton.
- Claims 2, 3, 5, 13, 15-16, and 18-19 were rejected under 35 USC §103 as being obvious over Horton.
- Claims 8, 17, and 22 were rejected under 35 USC §103 as being obvious over Horton in view of U.S. Pat. No. 5,831,970 to Arao.
- Claims 11, 12, and 14 were rejected under 35 USC §103 as being obvious over Horton in view of U.S. Pat. No. 4,923,057 to Carlson.

Responsive to the Action, applicant hereby amends claims 1, 3, 6, 8-12, 15, 20-22 and 26. Furthermore, applicant has canceled claims 2, 4, 17-19, and 23-24 and added new claim 27. Reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

Amended independent claim 1 recites, in pertinent part, an apparatus comprising:

a housing, *wherein said housing has the shape of a water-dwelling organism*;  
a coupling device ...  
a transmitter ...  
an energy-storage device ...; and  
a generator....

(Emphasis added.)

Original claim 13 recites, in pertinent part, an apparatus comprising:

a housing, *wherein said housing has a shape of a remora* ...  
a coupling device ...  
a transmitter ...  
an energy storage device ...; and  
a generator....

(Emphasis added.)

Neither Horton, Arao, nor Carlson disclose what is claimed in amended claim 1 or original claim 13. In particular, none of these references disclose an apparatus having a housing that is shaped like a water-dwelling organism or a remora. As a consequence, claim 1 is not anticipated by any of the cited art.

In its rejection of original claims 2, 3, and 13, the Office admitted that Horton, the primary reference that discloses an underwater unmanned tracking device that attaches to submarine, does not disclose that the tracking device has the shape of a water-dwelling organism or a remora. But the Office alleges that one skilled in the art "would have readily recognized that camouflaging the device in the manner of a water-dwelling organism, such as a remora, would make the device less conspicuous and thus more effective in tracking the object."

The Office's allegation begs a question. If one skilled in the art would have "readily recognized" that the underwater tracking device should be camouflaged as a water-dwelling organism, then why didn't Horton suggest it? The disclosure of Horton certainly demonstrates a concern for stealth, as indicated by the excerpts from Horton that are provided below. In fact, the passage at ¶0035 demonstrates a concern or awareness about the issue of *visible detection* of the UUV.

¶0008: "it is an object of the present invention to provide an unmanned underwater vehicle (UUV) for covertly monitoring and reporting a submarine's activities."

¶0022: "External sensory data may be fed to the vehicle 10 through ... other covert methods." "The vehicle 10 will target a predetermined area of the submarine that is well suited for both stealthy and long term attachment."

¶0030: "Sound will be produced when the vehicle 10 impacts the submarine 12, especially if the submarine hull 18 is uncoated metal. To dampen this sound, and thereby reduce the likelihood of alerting the submarine crew as to the presence of the vehicle 10, sections of the vehicle 10 most likely to strike the submarine, i.e., the nose and tail, may be coated with a thin layer of soft material."

¶0032: "Attached to the host submarine 12, the vehicle 10 remains quiet and motionless .... It's function is to go wherever the submarine 12 goes and remain undetected by the submarine crew."

¶0035: "If the vehicle 10 remains quiet, once attached it can likely remain there undetected until located visually."

¶0037: "Upon detaching from the submarine 12, as shown in FIG. 6, the vehicle 10 will proceed far enough away to preclude its visual detection by submarine divers."

¶0039: "As can be seen from the foregoing description, the vehicle 10 may be used to covertly monitor and report the activities of a submarine."

Hindsight is always "20-20." Inventions often appear "obvious" after they are disclosed. We've probably all exclaimed, at least once, "Why didn't I think of that!" The best evidence that camouflaging a UUV to look like a water-dwelling organism is not obvious is the fact that Horton never discloses or suggests it.

As a consequence, claims 1 and 13 are allowable over the cited art. Furthermore, claims 3, 5, and 6-12 are allowable based on their dependence on claim 1. And claims 14-16 are allowable based on their dependence of claim 13. The various dependent claims also recite additional patentable features, thereby providing a further basis for their patentability.

Amended claim 20 recites a method comprising:

reversibly coupling a housing to an object that is submerged in water, wherein said housing has a posterior portion and an anterior portion, and wherein said *posterior portion is movable independently of said anterior portion*; and generating energy by moving said housing through said water, wherein said energy is *generated by movement of said posterior portion of said housing*

(Emphasis added.)

Neither Horton, Arao, nor Carlson, alone or in combination, disclose or suggest what is claimed in amended claim 20. In particular, none of these references disclose a housing that has a posterior portion that is movable independently of the anterior portion of the housing, wherein energy is generated by movement of the posterior portion of the housing. Horton discloses that when the UUV is attached to a submarine, water moving past the UUV's propeller causes it to turn, which drives a

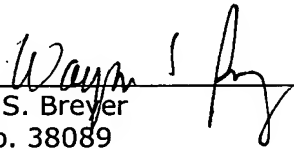
generator/motor. This is quite different from a housing that has a movable portion that is used to generate energy.

As a consequence, claim 20 is not obvious over the cited art. Claims 21, 22, and 25-27 are allowable based on their dependence of claim 20. The recitation of additional patentable features in these claims provides a secondary basis for their patentability.

**Conclusion**

In view of the foregoing, it is believed that claims 1, 3, 5-16, 20-22, and 25- 27 now presented for examination are in condition for allowance. A notice to that effect is solicited.

Respectfully,  
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